Crash Mapping Analysis Tool
Software Training

Course Description

Purpose of the Course:
To provide the tools and skills necessary for law enforcement, engineers, other highway safety related professions, and educators to determine where and why crashes occur in a given geographical area so they can more efficiently attempt to reduce the number and severity of those crashes.

Course Description:
This four hour class introduces the student to Iowa's Crash Mapping and Analysis Tool (CMAT v 3.6) software. The CMAT software, using a map interface, allows the student to use different tools to select crashes. For example: four manual crash selection tools are available: point, rectangle, polygon, and route segment. Eleven menu "finders" for crashes are also available: County, City, Township, Map Coordinate, Milepost, Node, Intersection: Road/Rail, Intersection: Road/River, Intersection: Road/Road, DOT Case Number, and Law Enforcement Case Number.

The student learns how to build and print a five year vertical bar "trend" chart plus ten other charts: County, Month, Day of the Month, Day of the Week, Major Cause, Crash Severity, Manner of Crash, Surface Conditions, Type of Roadway, Alcohol Related. A map can also be printed, showing the selected crashes as colored dots.

A Partial List of Applications for the Skills Learned in This Class:
The student should be able, upon completion of this four hour class:
    to select crashes by using any one of thirteen filters (time of day, day of month, major cause, year, etc.)
    to find the number of crashes in any given geographical location in Iowa,
    to view or print a five year vertical bar "trend" chart for the selected crashes,
    to view or print charts relating to where and when selected crashes occurred
    to view or print a chart showing the major cause for selected crashes
    to view or print a variety of other charts for the selected crashes
    to view or print any of five pre-formatted reports (see below).

Reports Available Using CMAT:
A *five year* vertical bar *"trend" chart* showing the number of total crashes each year for selected crashes.

A *colored map* with colored dots representing the selected crashes.

Four pre-formatted reports:
- A *Major Cause* report (listing major causes with the number of crashes for each cause; number of crashes per year; crash summary; injury summary; total property damage; average property damage per crash; surface conditions)
- A *Driver / Time Summary* (showing day of week/time of day, driver gender, drug/alcohol, fixed object)
- A *Summary* report (giving the date, DOT case #, LE case #, city, severity, location of selected crashes)
- A *Detail* report (with date, time, location of crash; major cause; severity; property damage; surface, weather, and road conditions; roadway type; number of vehicles; vehicle configuration; vehicle action; initial travel direction; manner of crash; driver condition; driver contributing circumstances; drug / alcohol; fixed object)